

### **REMARKS**

This is a full and timely response to the outstanding non-final Office Action mailed January 26, 2005. Reconsideration and allowance of the application and pending claims 1-33 are respectfully requested.

#### **I. Drawings Objection**

The drawings have been objected to under 37 C.F.R. 1.83(a) for not showing every feature of the invention specified in the claims. Specifically, the drawings are objected to because Figures 4 and 5 allegedly should contain labels. Applicants respectfully disagree per 37 C.F.R. 1.84(p)(5), but have nevertheless amended the drawings as requested by the Examiner to advance examination of the case. In particular, and in response to this objection, the drawings have been amended to provide for labeled features as required by the Examiner. A clean copy of Figures 4 and 5 has been included with this Response. No new matter has been added.

In view of the above-noted amendments to the drawings, Applicants respectfully submit that the drawings are acceptable and respectfully request that the objection be withdrawn.

#### **II. Specification Objection**

The specification has been objected to for containing various informalities. Specifically, the Office Action identifies that on page 8, paragraph [0023], line 20, the label 220 is mentioned to be equivalent to VGA. In Fig. 2, 220 is indicated to be a filter. Applicants have corrected the specification as suggested by the Examiner.

With regard to the objection pertaining to page 13, paragraph [0035], line 2, where the Examiner has requested that the term FIR should include the equivalent long written out term, Applicants respectfully disagree, but nevertheless have amended the specification as requested by the Examiner to advance examination. Applicants wish to note that paragraph [0031] introduces the term finite-impulse response (FIR) filter, and thus believes that it is no longer necessary to repeat the equivalent long written term.

Also, the specification is objected to for failing to provide proper antecedent basis for the claimed subject matter. The Office Action indicates that the term "global satellite mobile communication" was not mentioned in the specification. Assuming the Office Action is referring to the term "global system for mobile communications," as recited in claims 2, 14, and 22, Applicants wish to direct the Examiner's attention to paragraph [0013] of the specification, which provides a proper antecedent basis for the claim terms.

Although the above-described amendments effect various changes to the specification, it is respectfully asserted that no new matter has been added. In view of these amendments, Applicants respectfully submit that the specification is not objectionable, and therefore respectfully requests that the objection be withdrawn.

### **III. Claim Objections**

Claim 31 has been objected under 37 CFR 1.75(c) as being in improper form because a multiple dependent: claims 32 and 33. See MPEP § 608.01(n). Applicants respectfully disagree, since only a single claim is being referenced in each dependent claim, not multiple claims. Thus, Applicants respectfully request that the objection be withdrawn.

#### IV. Claim Rejections - 35 U.S.C. § 102(b)

##### A. Statement of the Rejection

Claims 1, 5, 8, 9, 11, 12, 16, 18, 20, 21, 25, 26, 27 have been rejected under 35 U.S.C. § 102(b) as allegedly anticipated by *Shi et al.* ("Shi," U.S. Pat. No. 6,332,083B1). Applicants respectfully traverse this rejection.

##### B. Discussion of the Rejection

It is axiomatic that "[a]nticipation requires the disclosure in a single prior art reference of each element of the claim under consideration." *W. L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1554, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1983)(emphasis added). Therefore, every claimed feature of the claimed invention must be represented in the applied reference to constitute a proper rejection under 35 U.S.C. § 102(b).

In the present case, not every feature of the claimed invention is represented in the *Shi* reference.

##### Independent Claim 1

As recited in independent claim 1, Applicants claim (with emphasis added):

1. A method for receiving signals based on a plurality of systems, the method comprising:
  - converting a first signal based on a first system ***to a first baseband signal;***
  - converting a second signal based on a second system ***to a second baseband signal;***
  - processing the first baseband signal using baseband components;***
  - and***
  - processing the second baseband signal using the baseband components.***

Applicants respectfully submit that *Shi* does not disclose the emphasized claim features. As an initial matter, the Office Action equates the features of *Shi* labeled 56, 58, 46, and 78 as a baseband section. Applicants do not agree. Column 6, lines 66-67 provide (with emphasis added) that the “ADC 58 is operable, amongst other things, to convert the analog IF signal formed by the bandpass filter 54 on the line 56 into digital form, also at an IF level. Likewise, column 7, lines 15 and 16 provide (with emphasis added) that the “[D]igitized, IF-frequency signals are generated by the ADC 58 on the line 62.” Thus, at least the elements 56, 58, and 46 could not possibly be a baseband section if they are operating at and generating IF.

Further, the Office Action equates the conversion of a first and second signal to a first and second baseband signal to label 164 of Figure 10 of *Shi*. However, column 10, lines 31-37 provides as follows (with emphasis added):

First, and as indicated by the block 164, indications of the first receive signals, when received at the radio receiver, and indications of the at least the second receive signals when received at the radio receiver, are selectively converted into first-converted first receive signals and at least first-converted second receive signals. respectively.

Then, and as indicated by the block 166, the signals are digitized at a bandpass digitizer.

Applicants respectfully submit that the first conversion appears to occur in IF to IF, since the bandpass digitizer appears to equate to element 58. Such processing does not provide first and second baseband signals as defined in independent claim 1.

Additionally, as explained above, element 58 provides an IF signal on line 62. Element 58 appears to be a bandpass digitizer, although this is not clear as described below. The Office Action equates element 166 of figure 10 to a processor that processes the first

and second baseband signals. However, element 166 recites digitizing first and second converted signals at a bandpass filter, which is at IF, not baseband. The specification is not completely clear on various element functions, since there is a bandpass filter 54 described in the *Shi* specification, but it does not appear to digitize a signal. The ADC is described as providing digitization (see columns 6 and 7).

Thus, Applicants respectfully submit that *Shi* does not disclose the emphasized claim features, and that the rejection to independent claim 1 should be withdrawn.

Because independent claim 1 is allowable over *Shi*, dependent claims 2-10 are allowable as a matter of law for at least the reason that the dependent claims 2-10 contain all elements of their respective base claim. See, e.g., *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988).

#### **Independent Claim 11**

As recited in independent claim 11, Applicants claim (with emphasis added):

11. A multi-mode receiver system for processing signals based on a plurality of systems, comprising:  
*a baseband section* configured to process *a first baseband signal* based on a first system using *baseband components*, wherein the baseband section is further configured to process *a second baseband signal* based on a second system using the *baseband components*.

Applicants respectfully submit that *Shi* does not disclose the emphasized claim features. As an initial matter, the Office Action equates the features of *Shi* labeled 56, 58, 46, and 78 as a baseband section. Applicants do not agree. Column 6, lines 66-67 provide (with emphasis added) that the “ADC 58 is operable, amongst other things, to convert the analog IF signal formed by the bandpass filter 54 on the line 56 into digital form, also at an IF level.” Likewise, column 7, lines 15 and 16 provide (with emphasis added) that the “[D]igitized,

IF-frequency signals are generated by the ADC 58 on the line 62.” Thus, at least the elements 56, 58, and 46 could not possibly be a baseband section if they are operating at and generating IF. It is not clear from the specification what element 78 operates under (IF or baseband), although element 78 also includes several circuit paths, which even assuming it was a baseband section, would not be considered a common baseband section.

Further, the Office Action equates the conversion of a first and second signal to a first and second baseband signal to label 164 of Figure 10 of *Shi*. However, from column 10, lines 31-37, the first conversion appears to occur in IF to IF, since the bandpass digitizer appears to equate to element 58. Such processing does not provide first and second baseband signals as defined in independent claim 11.

Additionally, as explained above, element 58 provides an IF signal on line 62. Element 58 appears to be a bandpass digitizer, although this is not clear as described below. The Office Action equates element 166 of figure 10 to a processor that processes the first and second baseband signals. However, element 166 recites digitizing first and second converted signals at a bandpass filter, which is at IF, not baseband. The specification is not completely clear on what element performs what function, since there is a bandpass filter 54 described in the *Shi* specification, but it does not appear to digitize a signal. The ADC is described as providing digitization (see columns 6 and 7).

Thus, Applicants respectfully submit that *Shi* does not disclose the emphasized claim features, and that the rejection to independent claim 11 should be withdrawn.

Because independent claim 11 is allowable over *Shi*, dependent claims 12-20 are allowable as a matter of law.

**Independent Claim 21**

As recited in independent claim 21, Applicants claim (with emphasis added):

21. A transceiver, comprising:  
means for transmitting signals;  
means for receiving signals, wherein the means for receiving includes pre-converting processing means;  
means for converting a first signal based on a first system *to a first baseband signal*;  
means for converting a second signal based on a second system *to a second baseband signal*; and  
*means for processing the first baseband signal, wherein the means for processing the first baseband signal is used for processing the second baseband signal.*

Applicants respectfully submit that *Shi* does not disclose the emphasized claim features. As an initial matter, the Office Action equates the features of *Shi* labeled 56, 58, 46, and 78 as a baseband section. Applicants do not agree. Column 6, lines 66-67 provide (with emphasis added) that the “ADC 58 is operable, amongst other things, to convert the analog IF signal formed by the bandpass filter 54 on the line 56 into digital form, also at an IF level. Likewise, column 7, lines 15 and 16 provide (with emphasis added) that the “[D]igitized, IF-frequency signals are generated by the ADC 58 on the line 62.” Thus, at least the elements 56, 58, and 46 could not possibly be a baseband section if they are operating at and generating IF. It is not clear from the specification what element 78 operates under (IF or baseband), although element 78 also includes several circuit paths, which even assuming it was a baseband section, would not be considered a common baseband section (i.e., not a common means for processing).

Further, the Office Action equates the conversion of a first and second signal to a first and second baseband signal to label 164 of Figure 10 of *Shi*. However, from column

10, lines 31-37, the first conversion appears to occur in IF to IF, since the bandpass digitizer appears to equate to element 58. Such processing does not provide first and second baseband signals as defined in independent claim 21.

Additionally, as explained above, element 58 provides an IF signal on line 62. Element 58 appears to be a bandpass digitizer, although this is not clear as described below. The Office Action equates element 166 of figure 10 to a processor that processes the first and second baseband signals. However, element 166 recites digitizing first and second converted signals at a bandpass filter, which is at IF, not baseband. The specification is not completely clear on what element performs what function, since there is a bandpass filter 54 described in the *Shi* specification, but it does not appear to digitize a signal. The ADC is described as providing digitization (see columns 6 and 7).

Thus, Applicants respectfully submit that *Shi* does not disclose the emphasized claim features, and that the rejection to independent claim 21 should be withdrawn.

Because independent claim 21 is allowable over *Shi*, dependent claims 22-27 are allowable as a matter of law.

Due to the shortcomings of the *Shi* reference described in the foregoing, Applicants respectfully assert that *Shi* does not anticipate Applicants' claims. Therefore, Applicants respectfully request that the rejection of these claims be withdrawn.

## **V. Claim Rejections - 35 U.S.C. § 103(a)**

### **A. Statement of the Rejection**

Claims 2, 3, 4, 6, 7, 10, 13, 14, 15, 17, 19, 22, 23, 24, 29, 30 and 31 have been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over *Shi* in view of *Peterzell et*



*al.* (“*Peterzell*,” U.S. Pat. No. 6,694,129B2). Claim 28 has been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over *Shi* in view of *Wildhagen et al.* (“*Wildhagen*,” Foreign Patent No. EP1233555A1). Claims 32 and 33 have been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over *Shi* in view of *Peterzell*, and further in view of *Wildhagen*. Applicants respectfully traverse these rejections. The discussion of dependent claims 29-33 will be addressed in the discussion of independent claim 28.

#### **B. Discussion of the Rejection**

As has been acknowledged by the Court of Appeals for the Federal Circuit, the U.S. Patent and Trademark Office (“USPTO”) has the burden under section 103 to establish a proper case of obviousness by showing some objective teaching in the prior art or generally available knowledge of one of ordinary skill in the art that would lead that individual to the claimed invention. See *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Accordingly, to make a proper case for obviousness, there must be a prior art teaching or established knowledge that would suggest to a person having ordinary skill in the pertinent art to fill the voids apparent in the applied reference. It is respectfully asserted that no such case has been made in the outstanding Office Action.

With respect to claims 2-10, 12-20, and 22-27, *Shi* fails to disclose, teach, or suggest the emphasized claim features shown above for independent claims 1, 11, and 21. *Peterzell* does not remedy the deficiencies evident in *Shi*. Since claims 2-10, 12-20, and 22-27 incorporate the claimed features of independent claims 1, 11, and 21, respectively, Applicants respectfully submit that the proposed combination of *Shi* and *Peterzell* does not disclose, teach, or suggest the dependent claim features, and that the rejection to claims 2-10, 12-20, and 22-27 should be withdrawn.

In addition to the above described defects of the rejection, Applicants respectfully assert that the proposed combination is improper. It has been well established that teachings of references can be combined only if there is some suggestion or incentive to do so. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). Accordingly, there must be a teaching in the relevant art which would suggest to a person having ordinary skill in that art the desirability of combining the emphasized claim features. In fact, Applicants respectfully submit that *Peterzell* appears to teach against the proposed combination. For instance, on column 4, lines 34-37, *Peterzell* provides, in contrast to *Shi*'s shared RF and IF stages, the following:

To support multiple bands and modes of operation, receiver 101 must include some mode-specific components. For instance, in a multi-band receiver, an individual RF signal path is typically required for each frequency band.

Thus, Applicants respectfully submit that the proposed combination is improper, and that the rejection to claims 2-10, 12-20, and 22-27.

With respect to claims 28-33, Applicants respectfully submit that the proposed combination of *Shi* and *Wildhagen* does not disclose, teach, or suggest the features of independent claim 28. As recited in independent claim 28, Applicants claim (with emphasis added):

28     A multi-mode receiver system, comprising:  
         a code-division multiple access system ***having a common baseband system***; and  
         a digital-broadcast system that shares the common baseband system with the code-division multiple access system.

In particular, Applicants respectfully submit that *Shi* does not disclose "having a common baseband section," as related above, but describes IF sections. *Wildhagen* does not remedy these deficiencies. Thus, Applicants respectfully request that the rejection to independent claim 28 be withdrawn.

Because independent claim 28 is allowable over the proposed combination, dependent claims 29-33 are allowable as a matter of law.

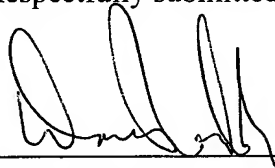
With regard to the rejection of dependent claims 32 and 33, *Shi* fails to disclose, teach, or suggest the emphasized claim features shown above for independent claim 28. Neither *Peterzell* nor *Wildhagen* remedies the deficiencies evident in *Shi*. Since claims 32-33, and in fact claims 29-33, incorporate the claimed features of independent claim 28, Applicants respectfully submit that *Shi*, *Peterzell*, and *Wildhagen*, alone or in combination, fail to disclose, teach, or suggest the dependent claim features, and that the rejection to claims 29-33 should be withdrawn.

Further, as discussed above, Applicants respectfully submit that the proposed combination of *Shi* and *Peterzell* is improper.

**CONCLUSION**

Applicants respectfully submit that Applicants' pending claims are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

Respectfully submitted,



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Please amend the present application as follows:

**Drawings**

Applicants have included replacement sheets for FIGS. 4 and 5 showing the labels as required by the Examiner.